

REMARKS

In an Office Action mailed on April 21, 2009, claims 1-5, 8-10, 17, 28, 30, 31, 36 and 56-59 were rejected under 35 U.S.C. § 103(a) as being unpatentable over Davidson in view of Smith; and claims 18-21 were objected to as being dependent upon a rejected base claim but were indicated as being allowable if rewritten in independent form.

In the latest Office Action, the § 102 rejections of claims 1-5, 8-10, 17, 28, 30, 31, 36 and 56-59 in view of Smith in the previous Office Action have been replaced by § 103 rejections based on the hypothetical combination of Davidson and Smith. Independent claims 1 and 28 have been amended to incorporate dependent claims 56 and 58, respectively. Therefore, the § 103 rejections of claims 56 and 58 are addressed below in the discussions of independent claims 1 and 28. For at least the reasons that are set forth below, Applicant respectfully submits that Davidson fails to cure the deficiencies of Smith, and as such, one of skill in the art in possession of Davidson and Smith would not have derived the limitations of the claims.

More specifically, to make a determination under 35 U.S.C. § 103, several basic factual inquiries must be performed, including determining the scope and content of the prior art, and ascertaining the differences between the prior art and the claims at issue. *Graham v. John Deere Co.*, 383 U.S. 1, 17, 148 U.S.P.Q. 459 (1965). Moreover, as the U.S. Supreme Court held, it is important to identify a reason that would have prompted a person of ordinary skill in the art to combine reference teachings in the manner that the claimed invention does. *KSR International Co. v. Teleflex, Inc.*, 127 S. Ct. 1727, 1741, 82 U.S.P.Q.2d 1385 (2007).

Regarding the § 103 rejection of claim 1, the system of claim includes a riser extending from a platform adjacent an ocean surface towards an ocean bottom; a landing string extending within the riser from the platform towards the ocean bottom; and a line extending along at least a part of a length of the landing string and including a distributed sensor system. As amended, claim 1 recites that the landing string extends in an interval within the riser from the platform toward the ocean bottom and recites that the distributed sensor system is adapted to sense a parameter at various points along the interval.

The Office Action appears to rely on Davidson for the purported disclosure of a riser and a landing string. The Office Action also appears to rely on Smith for the purported disclosure of the line and distributed temperature sensor of claim 1. Office Action, p. 3. In particular, the Office Action appears to contend that it would have been purportedly obvious to replace

purported temperature sensors of Davidson's landing string 22 with Smith's optical fiber for purposes of deriving the claimed invention. Office Action, p. 5. In this manner, the Office Action states the following:

Referring to claims 1 and 28, it would have been obvious to one having ordinary skill in the art at the time the invention was made to modify the system and method of Davidson by using an optical sensor system as taught by Smith in order to obtain temperature measurements along the length of the string, which is disclosed as being desirable by Davidson.

Office Action, p. 5.

Applicant respectfully submits that the § 103 rejection is deficient for at least the reason that several of the factual findings made in the Office Action are in error. For example, the Office Action contends that Davidson discloses that obtaining temperature measurements along the length of a string are desirable. *See, for example*, Office Action, p. 5. Contrary to such a disclosure, however, Davidson discloses a single temperature sensor near the end of its landing string 22 but fails to teach or suggest obtaining temperature measurements along the length of a string, as contended by the Examiner. More specifically, Davidson discloses sensors 64 that are located near the lower end of a landing string 22 (Davidson, para. no. 39) for purposes of allowing "better monitoring and management of the deployment of subsea completion equipment." The sensors 64 include an accelerometer to monitor a vibration of the landing string 22 during its running or retrieval (Davidson, para. no. 0039); an orientation sensor 64a to indicate the orientation of the string 22 with respect to a marine riser string 24 (Davidson, para. no. 0041); a video camera sensor 64c (Davidson, para. no. 0045); and a sensor 64p to monitor the condition of hydraulic fluid (Davidson, para. no. 0059).

Davidson further discloses a production tubing 74 that is part of the landing string 22. This production tubing 74 includes sensors 64j; and Davidson states, "the sensors 64j may include a temperature sensor." Davidson, para. no. 63. Davidson fails to, however, disclose measuring a distributed temperature or measuring a temperature along the length of a string, as contended in the Office Action.

Furthermore, Davidson discloses that the temperature sensor 64j is contained in the production tubing 74 section of the landing string 22. In this aspect, Davidson's disclosure is similar to Smith's disclosure and as such, fails to cure Smith's deficiencies. More specifically, as previously pointed out by Applicant, Smith discloses a specific way to install the optical fiber in

the well: the optical fiber is installed in Smith's production tubing 8 after the production tubing 8 is installed in the well. In this manner, Smith discloses attaching a tubing string 11 to the end of a production tubing 8 (Smith, 6:1-4), and after the tubing string 11 is in position in the well, installing the optical fiber in the tubing string 11 (Smith, 7:37-47).

However, Smith fails to disclose that the optical fiber is present in the tubing string 11 as the production tubing 8 is deployed from a surface rig. To the contrary, Smith discloses pumping the optical fiber into the wellbore through the use of a silicone gel or other fluid (Smith, 7:37-47). Thus, Smith fails to disclose that the optical fiber is installed with the tubing string 11. As such, one of skill in the art in possession of Smith and Davidson would not have derived the combination of claimed features, such as a distributed temperature sensor that is adapted to sense a parameter at various points along an interval that extends from an ocean surface platform toward an ocean bottom. Therefore, even assuming, for purposes of argument, that Davidson and Smith may be hypothetically combined, one of skill in the art would have been led to pump Smith's optical fiber into Davidson's production string after Davidson's production string is deployed in the well. Such deployment, however, does not disclose or render claim 1 obvious. Furthermore, the Office Action fails to provide a plausible reason to explain why one of skill in the art in possession of Davidson and Smith would have derived deploying Smith's optical fiber into Davidson's production string when the production string is located above the wellhead, as implied in the § 103 rejection of claim 1. Without such a showing, Applicant respectfully submits that a *prima facie* case of obviousness has not been set forth for independent claim 1.

Independent claim 28 overcomes the § 103 rejection for similar reasons. In this regard, the method of claim 28 recites deploying a landing string that is deployed within a riser, where the landing string and riser extend from a platform on the ocean surface towards an ocean bottom; and deploying a line along at least part of a length of the landing string, where this line includes a distributed sensor system. As amended, claim 28 recites that the distributed sensor system is adapted to sense a parameter at various points above the ocean bottom. Even assuming, for purposes of argument, that the hypothetical combination of Smith and Davidson discloses ultimately deploying Smith's optical fiber in Davidson's production string, the Office Action fails to set forth a plausible reason to explain why one of skill in the art in possession of Smith and Davidson would have derived deploying a line such that a distributed sensor system is

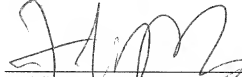
adapted to sense a parameter at various points above the ocean bottom. Thus, a *prima facie* case of obviousness has not been set forth claim 28.

Dependent claims 2-5, 8-10, 17, 30, 31, 36, 56 and 59 and newly-added claim 60 are patentable for at least the reason that these claims depend from allowable claims for the reasons that are set forth above.

CONCLUSION

In view of the foregoing, Applicant respectfully requests withdrawal of the § 103 rejections and a favorable action in the form of a Notice of Allowance. The Commissioner is authorized to charge any additional fees or credit any overpayment to Deposit Account No. 20-1504 (SHL.0308US).

Respectfully submitted,



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